

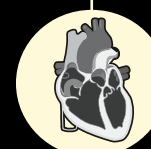


As You Exercise

Here are some of the amazing things that happen inside a body in motion.

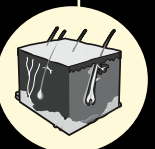


During exercise, blood flow to the brain increases, which creates new blood vessels. Exercise also triggers the release of chemicals that dull pain and lighten mood.



Moving quickly makes the heart pump more blood to the tissues, including the muscles. That provides extra oxygen, which helps muscles better withstand tiredness from stress.

Exercise increases blood flow to the skin. This delivers nutrients to the epidermis (outer layer) and helps wounds heal faster.



Power Words

cardiovascular adjective: relating to the heart and blood vessels

sedentary adjective: inactive

clues to how the body changes with physical activity. A group that doesn't exercise will also be tracked, for comparison.

According to scientist Maren Laughlin, new technologies make the study possible. She is a leader of the project. Researchers hope to identify every tiny part of the body that is changed by physical activity. "We can now measure the molecules that make up the human body very easily and efficiently," Laughlin told TFK.

Workout Wonders

Studies show that many positive changes occur in the body during and after a workout. "Exercise restores muscles that have become weak, and can help repair tissues that are failing due to lack of use, disease or injuries, or aging," says Marcos Bamman. He is working on the NIH study.

One of the best pieces of news is that much of what we already do counts as physical activity. "Mowing the grass, raking leaves, washing the car—all that is exercise," says Jack Berryman. He is a retired professor of medical history at Washington University School of Medicine, in Seattle. "Physical activity includes all movement, not just throwing a ball through a basket."

Bamman hopes the NIH study will give doctors the ability to provide patients with a detailed, individual workout plan. In the meantime, here is a prescription for good health: Get active!

—By Mandy Oaklander for *TIME*,
with reporting by Glenn Greenberg

Think → Keep track of how many minutes you spend on physical activity in a week. What can you do to pump up your routine?

Millions of Americans aren't getting enough exercise. A new study hopes to scientifically prove the benefits of physical activity.

Doctors have long known that diet and exercise are the best ways to stay healthy. But few people get enough exercise. Only 20% of Americans get the recommended 150 minutes of strength and **cardiovascular** activity per week. More than 80 million Americans over age 6 are entirely inactive.

It doesn't help that many U.S. schools have cut gym classes. Nearly half of high school students don't have a weekly physical education (PE) class. Only 15% of

elementary schools require PE at least three days a week.

People leading a **sedentary** life pay a price. They are at higher risk for serious health problems, including heart disease and cancer.

Health experts want to raise awareness of the benefits of exercise. They believe it can lead to slower aging, longer life, better mood, stronger vision—the list goes on.

The U.S. National Institutes of Health (NIH) is playing a key role in the effort. This year, it is launching a major study. It will record in detail what happens inside a body in motion. Through its research, the NIH hopes to prove scientifically that exercise is good medicine.

A Group Effort

The six-year, \$170 million project will involve a group of about 3,000 sedentary people. They will range from 11-year-olds to the elderly. The group will begin an exercise program. Their blood, fat, and muscle will be studied before and after each workout. Scientists will look for

U.S. Olympians Lolo Jones, second from left, and Deena Kastor, right, join runners at an event in New York City.

